

9955/D01/AGS/LP

PATENTS

Proposed Claim Amendments

1-70. (Canceled).

71. (Currently Amended) An apparatus for treating an effluent fluid stream from one or more semiconductor manufacturing process tools, comprising:

a pre-treatment unit, downstream from at least one semiconductor manufacturing process tool, arranged to remove water soluble components from the effluent fluid stream;

an oxidizing unit, downstream from the pre-treatment unit, arranged to elevate the temperature of the effluent fluid stream, utilize a hydrogen source to effect destruction of at least a portion of halogen-containing components of the effluent fluid stream and effect oxidation of at least a portion of the oxidizable components of the effluent fluid stream; and

a quench unit, downstream from the oxidizing unit, arranged to lower the temperature of the effluent fluid stream, wherein water vapor from the quench unit is recycled back to the oxidizing unit for utilization as a hydrogen source to effect destruction of at least portion of the halogen-containing components of the effluent fluid stream; and

a post-treatment unit, downstream from the ~~oxidizing unit~~ quench unit, arranged to remove acidic components from the effluent fluid stream.

72. (Previously Presented) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 71, wherein said halogen-containing components contain fluorine.

73. (Previously Presented) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 71, wherein said halogen-containing components contain chlorine.

74. (Previously Presented) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 71, wherein said halogen-containing components comprise perfluorocarbons.

75. (Previously Presented) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 71, wherein the pre-treatment unit is arranged to remove particulates from the effluent fluid stream.

76. (Previously Presented) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 71, wherein the post-treatment unit is arranged to remove particulates from the effluent fluid stream.

77. (Canceled)

78. (Currently Amended) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 77 71, wherein the quench unit is constructed using a corrosion-resistant alloy.

79. (Previously Presented) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 71, wherein the oxidation unit is constructed using a high temperature oxidation-resistant alloy.

80-110. (Canceled).

111. (Previously Presented) An apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools, comprising:

an oxidizing unit, downstream from at least one semiconductor manufacturing process tool, arranged to elevate the temperature of the effluent fluid stream, utilize a hydrogen source to effect destruction of at least a portion of the halogen-containing components of the effluent fluid stream and effect oxidation of at least a portion of the oxidizable components of the effluent fluid stream;

a post-treatment unit, downstream from the oxidizing unit, arranged to remove acidic components from the effluent fluid stream; and,

a quench unit, downstream from the oxidizing unit and upstream from the post-treatment unit, arranged to lower the temperature of the effluent fluid stream, wherein water vapor from the quench unit is recycled back to the oxidizing unit for utilization as a hydrogen source to effect destruction of at least portion of the halogen-containing components of the effluent fluid stream.

112. (New) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 111, wherein said halogen-containing components contain fluorine.

113. (New) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 111, wherein said halogen-containing components contain chlorine.

114. (New) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 111, wherein said halogen-containing components comprise perfluorocarbons.

115. (New) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 111, further comprising a pre-treatment unit arranged to remove particulates from the effluent fluid stream.

116. (New) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 111, further comprising a post-

treatment unit arranged to remove particulates from the effluent fluid stream.

117. (New) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 111, wherein the quench unit is constructed using a corrosion-resistant alloy.

118. (New) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 111, wherein the oxidation unit is constructed using a high temperature oxidation-resistant alloy.

119. (New) An apparatus for treating an effluent fluid stream from one or more semiconductor manufacturing process tools, comprising:

an oxidizing unit arranged to elevate the temperature of the effluent fluid stream, utilize a hydrogen source to effect destruction of at least a portion of halogen-containing components of the effluent fluid stream and effect oxidation of at least a portion of the oxidizable components of the effluent fluid stream; and

a quench unit, downstream from the oxidizing unit, arranged to lower the temperature of the effluent fluid stream, wherein water vapor from the quench unit is recycled back to the oxidizing unit for utilization as a hydrogen source to effect destruction of at least portion of the halogen-containing components of the effluent fluid stream.

120. (New) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 119, wherein said halogen-containing components contain fluorine.

121. (New) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 119, wherein said halogen-containing components contain chlorine.

122. (New) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 119, wherein said halogen-containing components comprise perfluorocarbons.

123. (New) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 119, further comprising a pre-treatment unit arranged to remove particulates from the effluent fluid stream.

124. (New) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 119, further comprising a post-treatment unit arranged to remove particulates from the effluent fluid stream.

125. (New) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 119, wherein the quench unit is constructed using a corrosion-resistant alloy.

126. (New) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 119, wherein the oxidation unit is constructed using a high temperature oxidation-resistant alloy.